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## Chapter 13

# Displaying the Stones: the Materiality of 'Megalithic' Monuments

Chris Scarre

Materiality is, or should be, a central theme of archaeology. The term itself (according to the *Oxford English Dictionary*) is an eighteenth-century derivation from the medieval Latin *materialitas*, which signifies 'material quality or embodiment'. Archaeologists have always been very aware of materiality, but they have sometimes been reticent about giving it the theoretical prominence it deserves in an overall understanding of human behaviour. Only recently has attention been drawn to the extent to which humans, as conscious agents, both engage with material culture, and are the product of that engagement. Julian Thomas has written of 'the process through which persons and things come to mutually constitute each other's identities' (Thomas 1996, 82). Peter J. Wilson has emphasized the radical impact of one specific material artefact, the house, on human social and cognitive behaviour, an impact that he equates with the 'domestication' of the human species (Wilson 1988).

The significance of materiality does not only include the 'cultural' world of created things, however, but extends to the 'natural' world. 'Natural' objects themselves only have significance insofar as they are interpreted and understood by human agents. As has frequently been observed, the concept of 'nature' (as opposed to 'culture') is in itself a product of modern western understanding (e.g. Thomas 2001, 167; Ingold 2000, 40ff.). In terms of haptic or sensory experience, no sharp distinction should be drawn between the two: the 'natural' and 'cultural' are both equally 'encountered' in material form by humans in their surroundings. Furthermore, 'created' objects are inevitably made from 'natural' materials, and it is often unclear what is natural and what is not. In modern consumer society, for example, 'natural' spring water is sold commodified in plastic supermarket bottles and areas of outstanding

'natural' beauty are carefully delimited and controlled — effectively created — by planning authorities.

If materiality is the condition of material objects as encountered by humans, then materialization implies an active process whereby those material objects carry meaning; or more precisely, are invested with meaning by the humans who engage with them. 'To materialize culture is to participate in the active, ongoing process of creating and negotiating meaning' (DeMarrais *et al.* 1996, 16). Such materialization need make no distinction between materials that owe their form or appearance to human intervention, and those that do not. It may include living things (such as trees, which are gaining increased attention in considerations of the early prehistoric past: Cummings & Whittle 2003), or objects that might today be considered inanimate, such as mountains or boulders.

To archaeologists, the process of human engagement with particular material objects becomes most evident when the latter are found in a structured setting. The objects themselves need not be worked or modified for them to hold significance; collections of quartz pebbles or rock crystal brought from a distance may by their very presence at a site of prehistoric activity suggest that these substances held particular meaning or reference. The argument rests partly on the evidence of their collection and transport, but partly also on the special qualities of these materials in themselves. Quartz, in addition to its brilliant whiteness, can also generate electric sparks when struck (triboluminescence) and is widely held to be of special significance by ethnographically-documented societies (Whitley *et al.* 1999). Rock crystal can bend and split sunlight to create a rainbow; in Australia its occurrence in archaeological contexts may be linked with the mythical Rainbow Serpent (Cassen *et al.* 2000, 725–7).



**Figure 13.1.** Map of western Europe showing locations of sites mentioned in the text.

Thus the material qualities of objects themselves play an active part in shaping the relationships of meaning that they embody for human societies. This must lead us to enquire more closely just how human agents in the past interacted with those materials. Ingold has remarked how the manufacture of artefacts involves much more than the 'mechanical transcription of a design or plan . . . onto an inert substance'. For him, artefacts 'emerge — like the forms of living beings — within the relational contexts of the mutual involvement of people and their environments' (Ingold 2000, 88). Materials are not merely selected by humans for their utilitarian suitability, but in a sense enter into active partnership with humans in the production of artefacts and monuments. The basis of that partnership lies in the

specific qualities — the materiality — of the materials that are used.

Monuments are a specific form of material culture, and are frequently thought to have been a medium for communicating power. As such, they fit well within the definition of materialization as 'a means through which symbols, their meanings, and beliefs can be manipulated to become an important source of social power' (DeMarrais *et al.* 1996, 31). Megalithic monuments might be considered a classic instance of such materialization, the size of the individual blocks conveying a compelling message of scale, and of the ability to harness resources. Yet this might not be the most appropriate way of addressing the materiality of these monuments. Other possibilities are suggested by considering the manner in which 'megalithic' blocks are deployed in the Neolithic monuments of western Europe. Typically, the blocks are only minimally worked or altered from their 'natural' form. Their manipulation materializes a particular engagement with, and understanding of, the 'world' from which the stones were derived. Hence they appear to provide a conspicuous example of materialization, yet the interpretation of this materialization in terms of 'social power' underplays the specific materiality of the megalithic

blocks. In so far as the materialization is calling upon the materiality of the stones, we might question what the concepts or relationships are that were being materialized in these constructions. The materiality of the stones carries evident potency — through their size, shape, texture and colour. That potency must have been socially-mediated, as is evident above all in the collective action required for their incorporation in these megalithic monuments. They represent shared experience, from the presence of materials in the landscape through to the construction and use of the monuments. Hence in the broadest sense, megalithic monuments must indeed have related to frameworks of social power. Yet the manner in which the stones were selected and used suggests considerations, drawing on their materiality, that went be-



yond this. The power that they materialized derived from the qualities, associations and origins of the blocks themselves.

### The concept of the 'megalithic'

The particular materiality of the 'megalithic' derives fundamentally from the characteristic of size. The term 'megalith' has been with us (in an archaeological sense) for around 150 years. Glyn Daniel places its origins in the period 1840 to 1860 (Daniel 1958, 14). Characterized essentially by the use of large stones, it may appear a crude and undeveloped classificatory device, and not surprisingly its continued utility has at times been called into question. As Chris Tilley puts it, 'To what extent does the term 'capture' the reality of the monuments it is used to discuss?' (Tilley 1998, 141). One major difficulty is the diversity of the structures that are often grouped together as 'megalithic'. To quote Tilley again,

There are sometimes queries about how big a stone should be to be a big stone i.e. a megalith, and whether a rock cut monument can be properly included in the category. Is Newgrange really the same kind of thing as a Pembrokeshire dolmen? (Tilley 1998, 155).

The position is weakened still further by the inclusion of non-megalithic structures under the heading 'megalithic', by a process of loose association. Gordon Childe drew attention to this problem in the last edition of the *Dawn of European Civilization*:

The most intriguing tombs of the series, which consequently received the first attention from archaeologists, are built of extravagantly large stones. They are therefore termed 'megalithic'. But as the same plans are followed in tombs built in dry masonry with small stones and in others excavated in the ground (*rock-cut tombs*) the application of the term to the whole series is misleading. (Childe 1957, 213)

Daniel expressed a similar caveat:

while we may talk loosely about megalithic tombs and temples in western Europe, in reality we should be talking of prehistoric collective tombs, and recognising that tombs which strictly justify the description 'megalithic' are only one constructional variety in a larger class. (Daniel 1958, 27)

The problems surrounding the definition and utility of the term 'megalith' may be summarized as follows:

- that it covers a multitude of different things, and lumps together monuments that are in fact of very diverse construction (notably dry-stone and rock-cut as well as strictly megalithic);

- that it ignores comparable monuments in cognate materials (e.g. earth and timber), thus risking creating an artificial division within what is if anything a single broader category;
- and that conversely it groups together monuments that do not really belong together; this difficulty being exemplified by works such as James Fergusson's *Rude Stone Monuments* (1872) or T. Eric Peet's *Rough Stone Monuments and their Builders* (1912), both of which considered megalithic monuments as a global phenomenon. As is now widely recognized, the megalithic chambered tombs of Colombia or Korea have no direct connection with those of Neolithic western Europe. Should we then follow Chris Tilley's advice (1998, 159), and start to cross out the word 'megalith' in our texts?

The difficulty with such a deconstructionist proposal is that to reject the term 'megalith' is to ignore the very real materiality that lies behind it. Megaliths are not just a crude manipulation of materials, an early form of unsophisticated architecture before anything better was available; much more than that, they incorporate or exemplify particular attitudes to or ideas about the world. The peculiar qualities of megalithic construction were remarked by James Fergusson in the introduction to his global survey of these monuments:

The people or peoples who eventually elaborated these wonderful mausoleums or domed structures [here referring to Muslim or Mughal architecture] affected, at the very earliest periods at which we become acquainted with them, what may be called Microlithic architecture. In other words, they used as small stones as they could use, consistently with their constructive necessities. These stones were always squared or hewn, and they always sought to attain their ends by construction, not by the exhibition of mere force. On the other hand, the people whose works now occupy us always affected the employment of the largest masses of stone they could find or move. With the rarest possible exceptions, they preferred their being untouched by a chisel, and as rarely were they ever used in any properly constructive sense. In almost every instance it was sought to attain the wished-for end by mass and the expression of power. No two styles of architecture can well be more different, either in their forms or motives, than these two. (Fergusson 1872, 40)

Fergusson here makes reference not only to the size of the stones used in megalithic architecture, but to another characteristic feature of many (though not all) such structures: the employment of natural stones



**Figure 13.2.** 'They are formed of unshaped granite boulders'. (Woodcut of megalithic hunebed at Ballo (Drenthe, Netherlands) from Fergusson *Rude Stone Monuments* (1872).)

that have been little shaped or modified, if at all (Fig. 13.2). The same point is emphasized by Daniel, who describes the common features of European megalithic construction as:

the use of large stones in techniques which do not involve dressing to fine surfaces and straight edges. There are exceptions to this; the sarsen stones at Stonehenge are one exception, and many of the stones in the megalithic 'temples' of Malta are another; but these monuments are exceptional megalithic structures and can only be understood as *tours de force* in the traditions of megalithic architecture, traditions which are based fundamentally on the use of roughly-dressed large stones as walling and roofing stones. (Daniel 1958, 18)

This characteristic of European megalithic monuments — of using stones that are not only extravagantly large but also frequently undressed — deserves greater attention than it has hitherto received. One explanation for this practice might be that the large and unshaped nature of the stones reflects the limits of technological competence of the societies concerned. That such is not the reason may be demonstrated:

- a) by instances of careful shaping and smoothing of large blocks by these same societies (for example, in the Breton decorated menhir tradition or the 'dolmens angoumoisins' of western France, not to mention the rougher shaping of the Stonehenge sarsens);
- b) by the sophisticated use of dry-stonework not only in the interstices between the megalithic ele-

ments but also in the construction of tall and impressive corbel-vaulted chambers;

- c) by the recognition that the transport and manipulation of massive stone blocks was not an easy option, but that the dragging of large stones over sometimes long distances, and their assembly into carefully-designed monuments, may well have been as difficult and as labour-demanding, if not more so, than the construction of such monuments in dry-stone technique.

My argument, then, is that the tradition of megalithic architecture is far from opportunistic but is highly revealing of the attitudes of these societies to the materials that they were using: the large stones. Since these stones were not quarried from a depth but came from surface exposures or glacial erratics the source materials were visible in the landscape before construction was even contemplated. Patterns of weathering on capstones and orthostats frequently indicate that they were taken from rock outcrops or exposed pavements. In some cases, the blocks may already have been lying detached from their parent material by natural processes: the glacial erratics of northern Europe are an obvious example. In other cases, natural fissuring and cleavage of the rock outcrops made the detaching of blocks a relatively easy operation, and also played a major part in determining their shape and size. In many cases, furthermore, the blocks once detached were subjected to little or no subsequent shaping or smoothing; they were simply gathered together and incorporated into the desired structure, be it a stone row or a chambered tomb.



To explore this question further we need to examine a little more closely the way in which these natural stones were used. In doing so, it is important not to lose sight of the inherent variability within the various categories of European megalithic monuments. But attention must be drawn to a common characteristic which has not hitherto been adequately explored, here focusing on two regions of Europe where relevant observations have been made: the North European Plain and central-southern Portugal.

### 1. Northern Europe

In 1878, the Reverend William Lukis and Sir Henry Dryden spent a period of several weeks in Drenthe province, studying and recording the Dutch hunebeds (Lukis 1879; Bakker 1979). One puzzling question, on which they appear to have disagreed, was the extent to which the stones had been modified, notably by splitting them in two to obtain a relatively smooth face. In his report, Lukis wrote that

In almost all the hunebeds several artificially split stones have been employed both for supports and covering-stones, in order to produce a flat internal surface. The stones, being mostly of a stratified nature, rendered the cleavage probably not a difficult operation. I could not discover any trace of the means by which the operation was accomplished. (Lukis 1879, 50)

Lukis provided a set of plans for the Society of Antiquaries, on which, where appropriate, he marked an 'a' to indicate 'artificially split stones'. On the copies made by Dryden for the Drenthe Provincial museum at Assen, however, the 'a' is absent. Lukis evidently believed that several uprights and capstones had been artificially split in prehistory, but Dryden was apparently less confident (Bakker 1979). The difficulty is to distinguish intentional human cleavage from natural splitting of the stones which has left many erratic blocks broken into several fragments with smooth cleavage planes. A few years before Lukis and Dryden, Fergusson had preferred the 'natural' explanation:

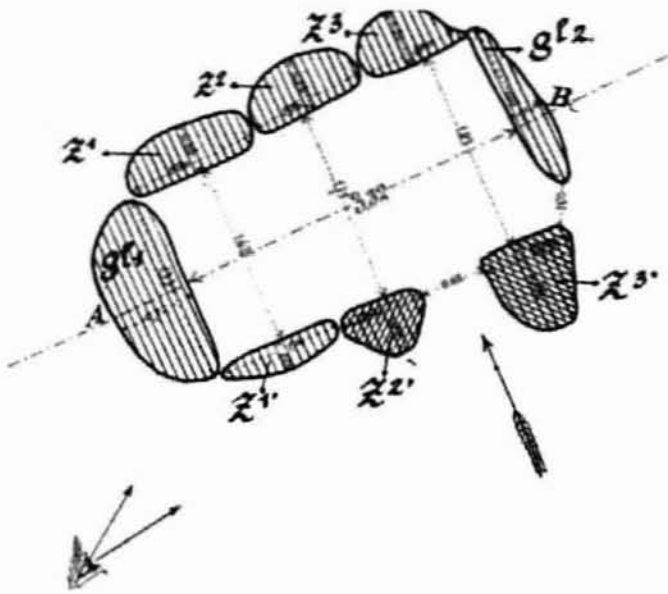
As will be seen from the annexed view of one near Ballo . . . , they are formed of unshaped granite boulders. Sometimes, it may be, artificially split, but certainly untouched by the chisel. All that has been done has been to select those most appropriate in form for the purposes to which they were to be applied, and then rudely to heap them one upon the other, but in such a manner as to leave wide gaps everywhere between the stones composing the structure. (Fergusson 1872, 321)



**Figure 13.3.** Dry-stone infill between megalithic slabs in hunebed of Borger 3 (Drenthe, Netherlands). (From Van Giffen 1927.)

These 'wide gaps' were a natural consequence of building with unshaped glacial erratics. The irregularity in the shape of the stones produced a very loose fit between the individual elements, but the interstices were not left open, as Fergusson appears to suggest, but were filled with carefully constructed dry-stone walling (Fig. 13.3). The presence of this walling demonstrates that the builders of these tombs were entirely capable of splitting glacial erratics into smaller blocks where required; hence the deployment of large unworked glacial erratics was the result of an intentional choice.

A number of studies have considered the visibility and availability of large erratic boulders to the builders of these tombs. Bakker & Groenman-van Waateringe observe that in the northern Netherlands, such blocks will have been buried within the boulder clay and only where erosional processes (down-cutting by postglacial rivers and streams) have been especially active will the clay have been removed and the erratic boulders revealed. Sometimes this



**Figure 13.4.** Plan of megalithic tomb at Eext (Drenthe, Netherlands) showing smooth faces of split erratic boulders turned towards the interior of the chamber. (From Van Giffen 1927.)

took the form not of individual scattered blocks but of what they refer to as 'stonefields' (Bakker & Groenman-van Waateringe 1988). Gehl (in Schuldt 1972) maps the distribution of surviving glacial erratics in Mecklenburg and shows how they fall into linear bands corresponding to the terminal moraines of various ice-sheets.

We can only speculate what the Neolithic inhabitants of northern Europe believed about the erratic boulders, especially where they were concentrated in such 'stonefields'. The construction of tombs in or adjacent to areas with erratic blocks would in part have been governed by pragmatic considerations, in response to the availability of suitably large stones for 'megalithic' construction, but what of their symbolic significance? These tombs, it can be argued, were erected in landscapes that were in some way already special because of the presence of these erratic blocks. How did the boulders come to be here? What did they mean?

The significance of the stones can be followed further by considering the specific ways in which they were built into these monuments. Most of the large blocks that were used in these structures have a plano-convex form, with one flat surface which corresponds to the cleavage plane where the glacial boulder has been split into two or more parts. More than a century after Lukis and Fergusson, it remains unclear to what extent the splitting of these blocks might be attributed to human action. Very few, how-

ever, have traces of wedge marks or other shaping or working, and it must be assumed that most were split naturally during the course of glacial transport or through subsequent natural processes (Bakker 1992, 25; Gehl, in Schuldt 1972, 110–11).

Three specific features are to be noted in the way these broken glacial erratics are incorporated in the tombs:

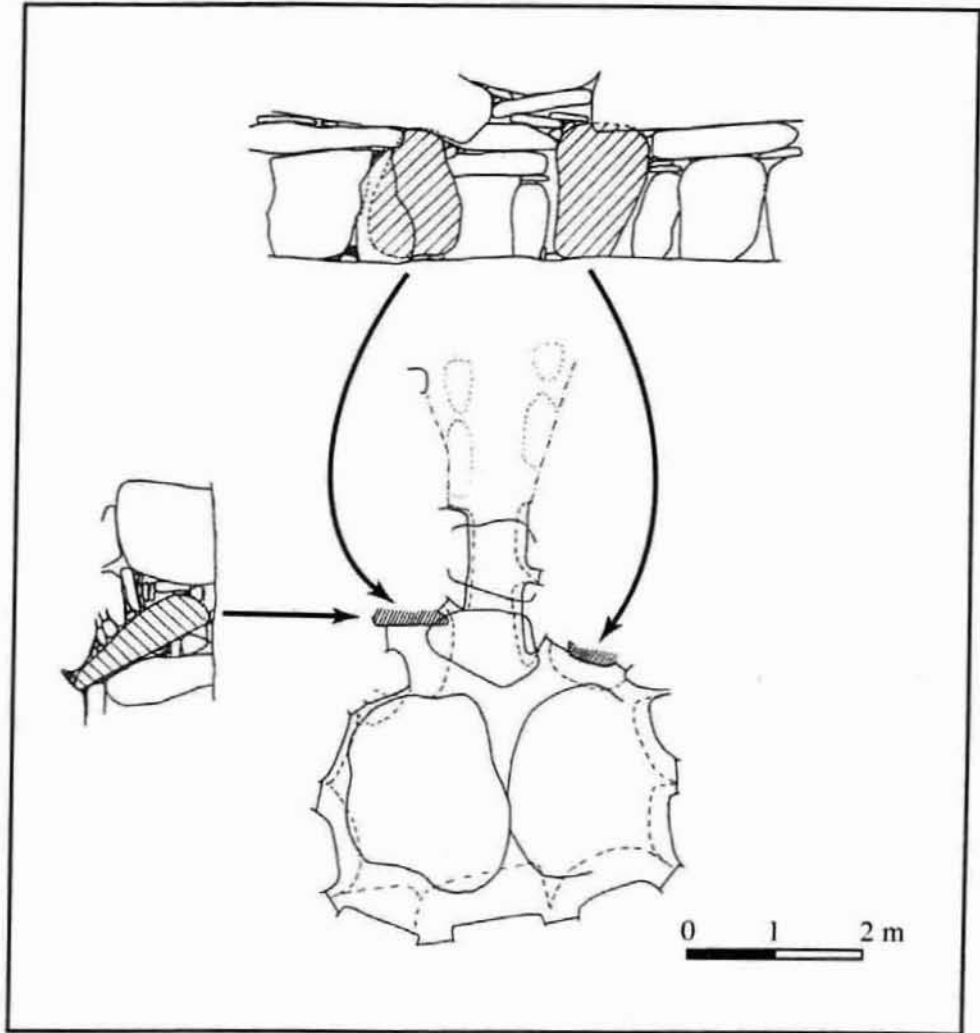
- 1) they are placed smooth face inwards: or where they form part of an orthostatic kerb around the foot of the covering mound or cairn, smooth face outwards (Lukis 1879, 50; Van Giffen 1927, 140; Bakker 1992, 26, 32; Midgley 1985, 89). In some cases, the smoothness of the surfaces is remarkable. At the hunebed of Eext, Van Giffen remarked that 'All slabs are exceedingly flat on the sides, directed towards the chamber and portico sometimes even as if they had been polished' (Van Giffen 1927, 45) (Fig. 13.4). Thus the appearance of these surfaces would seem to have held particular significance, and their presentation in the passages, chambers and kerbs of these monuments gave especial prominence to the element of display.
- 2) the contrast between the large glacial boulders and the intervening dry-stonework is emphasized in a number of ways. In a number of Danish tombs, layers of folded birch bark have been discovered between the courses of dry-stonework. In other cases, crushed chalk is found between the stone courses, and may (along with birch bark) have been a decorative feature — light stripes against the dark stone; Dehn & Hansen compare this with the use of chalk incrustation on contemporary pottery (Dehn & Hansen 2000). In other areas of northern Europe, clay or coastal marl was employed in the dry-stone work as a kind of mortar between the courses (Hoika 1990, 63), and here too this would not only have sealed the interior of the chambers but would have highlighted contrasts of colour and texture between glacial boulders and dry-stone infill. In Mecklenburg, the colour contrast was further highlighted by the predominant use of red sandstone for the dry-stonework, as against the granite of the orthostats.
- 3) in some areas, notably Denmark and Mecklenburg, 'twin stones' consisting of matching halves of the same split glacial erratic were incorporated in the same tomb (Dehn & Hansen 2000, 219–21; Gehl, in Schuldt 1972, 110). In the Danish examples, Dehn & Hansen have observed how these stones are placed in particular positions, next to

each other or opposite each other. At Ørnhøj in northern Jutland (Fig. 13.5), the twin stones are placed within the chamber, either side of passage entrance, and a note of asymmetry is introduced by the way that one is placed with its narrower end upwards, the other downwards i.e. inverted (Dehn & Hansen 2000, fig. 18.9).

These features highlight the special significance accorded to the glacial erratics through the way that they were built into the tombs. They suggest that they did not simply constitute convenient building material, but were regarded as having meaning in their own right. Their special status is confirmed by the way that, when serving as orthostats, they were levelled to accommodate the capstones. This was achieved by varying the depth of the foundation socket so as to bring the tops of the orthostats to the same height. Only in a very few instances is there evidence that the stones themselves had been cut to fit (Bakker 1992, 26–7). Thus care was taken to incorporate these glacial erratics in their unworked, natural state; to place them with their smoothed inner side (their interior) towards the viewer; and to seal the gaps between them with dry-stonework that is often intricate (owing to the irregular profiles of the erratics) and emphasizes contrasts of colour and texture. It is as if the erratic boulders are in some way sacrosanct, and are being displayed in these tombs as if in a kind of gallery of stones. The builders drew upon the potency of the stones in creating the collective representation that is the megalithic monument. But though socially mediated, the potency derived from the significance accorded to the materiality of the stones within a shared framework of beliefs; it was not a materialization exclusively concerned with the projection of power relations between individuals or lineages within the community.

## 2. Portugal

In Iberia, the materials for the construction of megalithic monuments were provided not by glacial

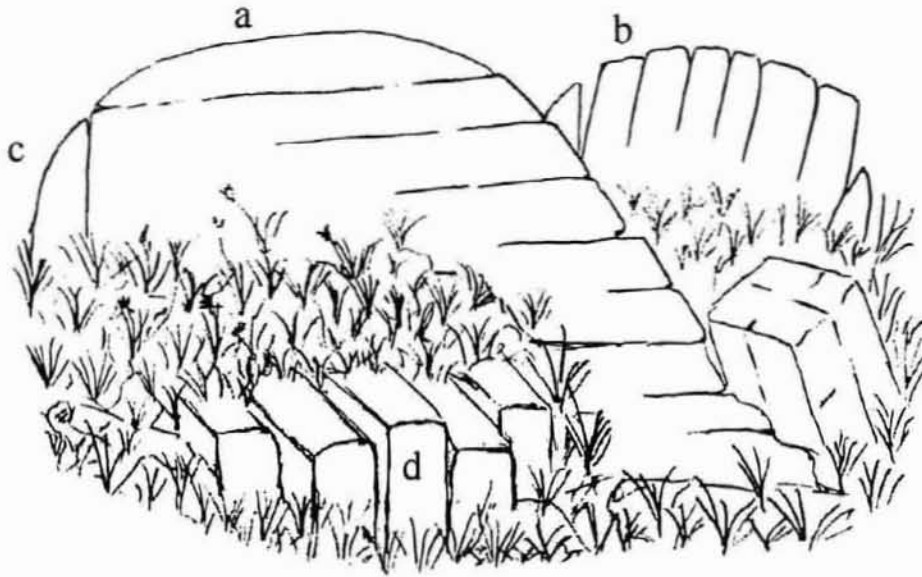


**Figure 13.5.** 'Twin stones' in the passage grave of Ørnhøj (Jutland, Denmark). (From Dehn & Hansen 2000.)

erratics but by rock outcrops. The materials could have presented themselves in a number of ways: notably, as loose blocks already detached by erosional processes from their parent material; as weathered and fissured outcrops from which slabs could be removed with relatively little effort; or as buried deposits that had to be obtained by quarrying. The last of these, quarrying, appears to be particularly rare, and in general, megalithic slabs seem to have been obtained either as already detached blocks of stone or from outcrops where relatively little effort was required.

Most of the materials used in these structures came from local outcrops; in many cases, however, the large slabs do not appear to have come from the immediate locality, though local bedrock was sometimes used for the dry-stone infilling. The larger blocks came from specially-selected exposures, usually within 5 km and only rarely more than 10 km from the site of the monument (Dehn *et al.* 1991; Kalb





**Figure 13.6.** Schematic diagram of Portuguese granitic rock outcrop illustrating removal of megalithic slabs following natural fissures. *a* and *c* provide planoconvex slabs of the kind used for capstones; *b* and *d* the parallel-sided blocks employed as orthostats or as capstones for larger chambers (From Vortisch 1999.)

1996). Thus monument locations do not appear to have been determined by the local availability of suitable material, but by other considerations.

Ease of extraction and engineering strength were naturally important considerations and very plausibly played a part in determining the choice of materials. We should be cautious, however, about an explanation which operates solely in terms of pragmatism. Ethnography encourages us to believe places in the landscape would have been endowed with special mythological or social significance, and these considerations, though essentially unrecoverable at the present day, may have played a major part in guiding the use of particular slabs and particular outcrops.

In Portugal, studies of the geological and petrological characteristics of the slabs used in a number of megalithic tombs have determined how they had been detached from the outcrops, and to what extent they had been shaped before or while being placed in position (Dehn *et al.* 1991; Vortisch 1999). In the megalithic tombs of Cota 1 and 2 in north-central Portugal, Vortisch noted evidence that a number of the stones had been modified and shaped, though only to a minor extent. Some 300 m south of Cota 2 begins a large exposed granite surface from which the material for the monuments was taken. At the northern end of this exposure, in particular, a number of loose granite blocks provide a likely source of

material, especially since the thickness of these natural slabs corresponds to those in the tombs and the perpendicular natural clefts and fissures produce blocks of a suitable size (Dehn *et al.* 1991). Thus the size and shape of the blocks is largely determined by the natural fracture patterns of the granite bedrock. Vortisch also observes that several of the slabs in the Cota tombs show evidence of shaping on their tops and sides, but this is described in terms of 'smoothing of large feldspar protrusions' and 'small oblique breakage surfaces'; it consists of the removal of irregularities, not the wholesale shaping of the blocks, and there is no reference to any working of their main faces, the parts that would be most visible once the slabs were in place in the monument.

In the Alentejo region, the Vale de Rodrigo monuments offered even less evidence for intentional shaping of the slabs (Dehn *et al.* 1991; Vortisch 1999). The menhir close to monument 1 was exceptional in this regard, the originally sharp angles of the natural cleavage scars having been removed and rounded by human action. By contrast, the shapes of the large stones used in the chambered tombs were directly explicable by the manner in which they had been extracted from the bedrock. Several of the capstones have a flat underside and a convex upper side, the latter with weathering that indicates that it was the original surface of the rock. As Vortisch observes, the flat undersides correspond to the natural cleavage planes in the rock along which the slabs were detached. The large parallel-sided capstones could also have been extracted horizontally by exploiting natural cleavage planes. The original position of the orthostats can likewise be determined from their plano-convex or parallel-sided morphology. The obliquely-sloping top of an orthostat from Vale de Rodrigo 3, for example, corresponds to the weathered edge of the outcrop from which it was detached.

Vortisch provides an illustration showing the kind of fissuring that would have facilitated the extraction of blocks (Fig. 13.6). Determinations of geological provenance of the slabs throw further light on the way in which they were obtained. Of 33 capstones and orthostats in the four Vale de Rodrigo

monuments, 19 were of biotite-tonalite, exposures of which begin over a kilometre (and generally more than 2.5–3 km) from the monuments; only 5 are of biotite-hornblendite-tonalite, the bedrock on which the monuments stand. Yet the physical properties of the two rock types are very similar and they can scarcely be distinguished from each other by the naked eye. The explanation lies in the nature of the natural cleavage lines, and the shapes of the slabs that are preformed in this way:

Wichtig erscheint jedoch, daß dieses Gestein recht oft, aufgrund seiner Klüftung, schöne plattige Ansonderung zeigt, während dies beim Biotit-Hornblende-Tonalit der näheren Umgebung nur selten der Fall ist. [It is nevertheless important that in its natural fissuring this stone very often displays flat regular cleavage lines, which is rarely the case for the more locally available biotite-hornblendite-tonalite.] (Vortisch 1999).

Thus the monuments of Vale de Rodrigo are essentially created from unmodified natural slabs that were readily visible and easily extractable in the local geology. Like the Dutch hunebedden, the builders simply drew together unworked natural slabs, and arranged them in what are nonetheless often sophisticated monuments of considerable size. Furthermore, these Portuguese tombs appear to have incorporated natural stones in a particular and essentially similar way to those of northern Europe; the faces visible to the viewer were in both cases the cleavage planes, formed in northern Europe by the splitting of erratics and in Portugal by the fracturing of the bedrock. In Portugal, some of these surfaces were in a sense artificial, created through the action of removing the slab from the outcrop; on the other hand, they might also be considered 'natural' in so far as they corresponded to existing clefs and fissures. In northern Europe, some of the surfaces were perhaps created by the builders in splitting the erratic boulders, but in many cases the boulders that were used had already been split by glacial action. Even though these slabs may occasionally have undergone a degree of edge-trimming to remove irregularities, it is important to note the visible surfaces were not the result of intensive pounding and smoothing.

What might be the significance of this tradition of using unmodified natural blocks? Vortisch and his colleagues have argued that ease of construction may explain many features of the selection and use of stone in the Portuguese monuments. Given the ready availability of pre-formed natural blocks, one might argue that it was only to be expected that the

first stone monuments were built of unmodified slabs. Before accepting such a functionalist hypothesis, however, a number of additional considerations must be borne in mind.

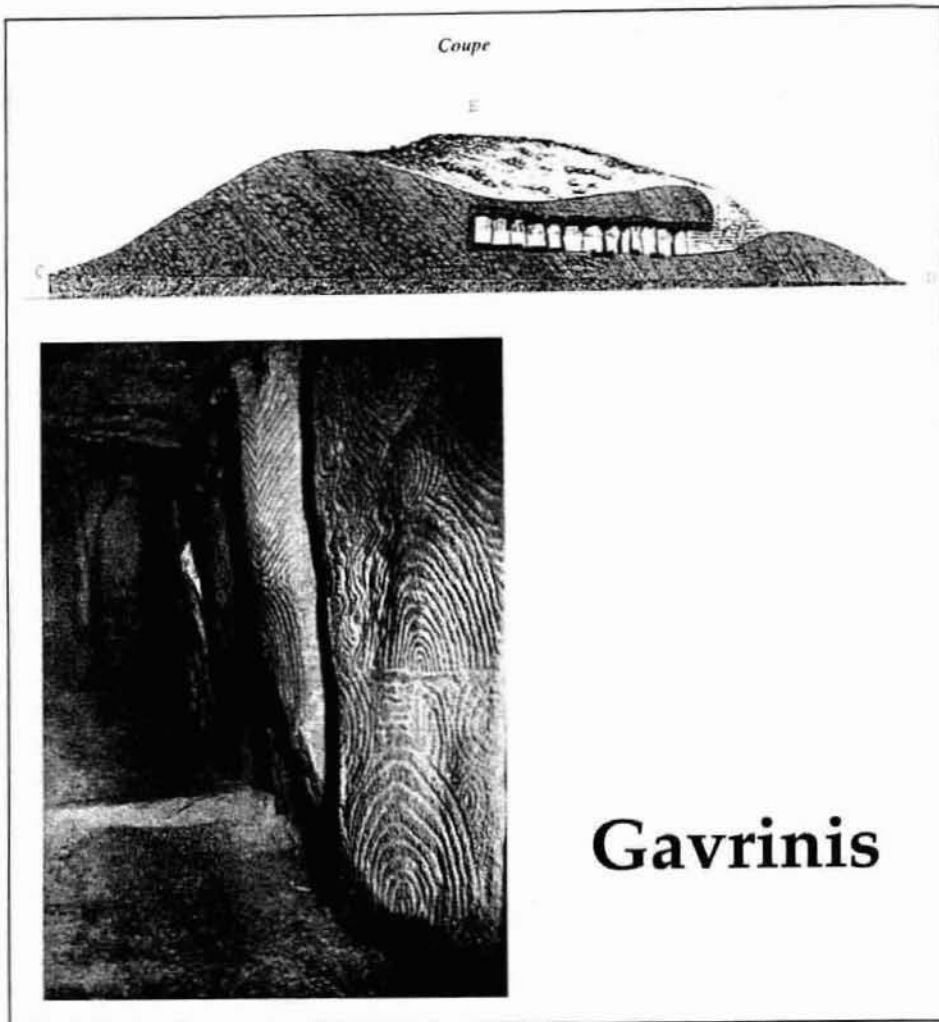
First, the geological studies may explain why at Vale de Rodrigo the more distant biotite-tonalite was preferred to the nearer biotite-hornblendite-tonalite, in terms of its tendency to fracture into suitably-shaped slabs; but such an argument has more difficulty in explaining why a proportion of the stones was brought from much greater distances of over 6.5 km and possibly up to 10 km (Dehn *et al.* 1991; Kalb 1996). We should perhaps question whether these choices were driven purely by technical considerations.

Second, detaching pre-formed slabs of rock may be a relatively easy operation; but if economy of effort is the argument, we must ask ourselves why later architectures have not followed the megalithic tradition. As Fergusson observed, most stone-built structures do not employ large megalithic slabs but instead use smaller stones in the dry-stone technique (Fergusson 1872, 40), or indeed as mortared masonry. That the dry-stone technique was familiar to the builders of the megalithic chambered tombs is demonstrated by its frequent presence alongside megalithic slabs; in the spaces between the split glacial erratics in north European tombs; or at Vale de Rodrigo (and elsewhere) in the corbel-vaulted chamber of monument 1.

The advantages of dry-stonework over megalithic construction include the greater ease of transport, and the greater malleability in the forms of the structures that can be created. It is easier to carry numerous small blocks from source to building site than to overcome the immense problems encountered in transporting large slabs weighing several tonnes across uneven terrain. Furthermore, there is much greater control and flexibility over the shape of the resulting building or structure. In most architectural traditions, these appear to outweigh any advantages that derive from the ready-formed nature of megalithic slabs and the saving in the effort of breaking large slabs into smaller blocks. This then leads us to the question posed by Fergusson back in 1872: why megalithic?

The answer must lie in the nature and significance of the blocks themselves. In the absence of direct ethnographic evidence from prehistoric western Europe, it is an issue that in large measure lies beyond the reach of current archaeological methodologies. Some sense of the significance may, however, be obtained by considering the monuments





## Gavrinis

**Figure 13.7.** a) Nineteenth-century lithograph showing cross-section through passage grave of Gavrinis in Brittany; b) interior with decorated orthostats. (From Péquart et al. 1927.)

within the context of the broader landscape and of particular features within it. Cliffs, crags and outcrops very probably held special meaning for Neolithic populations, who may have associated them with particular events or explained their creation through myths and traditions. The elision of the natural and cultural landscape is a theme that has been widely discussed in relation to megalithic monuments in recent years. Built monuments incorporate natural materials, sometimes in ways which tie them in closely to the natural world. Thus in a real sense they could be said to represent the 'materialization' of the qualities and associations of those materials. At the boundary between the cultural and the natural we find monuments such as the Linkardstown cists of Ireland or the 'outcrop sites' of southwest Wales, where a form of megalithic burial chamber is created by simply levering up a natural slab. Such examples illustrate once again the need to distinguish the evocative power of the landscape from the

social power and the social agendas of individual human agents.

At the other extreme we have megalithic monuments where the original materials have been extensively shaped and modified to create impressive cultural statements. Mention has already been made of Stonehenge in this context, where both the sarsens and some of the bluestones reveal evidence of shaping. The clear facets on the faces of the standing sarsens are especially evocative, but we must not overlook the mortice and tenon joints at their summits, nor the traces of similar joints on certain of the bluestones, though many of the bluestones (and one of the sarsens — the so-called Heelstone) are unworked (Cleal *et al.* 1995, 26–9). In western France, very clear and sophisticated shaping is apparent in the category of tombs known as 'dolmens angoumoisins', which frequently have pecked and fitted orthostats and carved doorways. An unusual but especially memorable example of the cultural working of stone slabs in the dolmen angoumoisin tradition is the megalithic door at Fontenille in Charente, complete with stone-carved pivots.

There are other categories of megalithic monument that are also shaped and modified. The largest of all the megalithic slabs of western Europe, the 280-tonne Grand Menhir Brisé, had been pecked and pounded to produce a smooth and regular form. It also bears a motif carved in raised relief, which serves to remind us that the so-called 'megalithic art' constitutes a further instance of the visible modification of natural slabs. The most elaborately decorated of all Breton passage graves is Gavrinis in the southern Morbihan. This tomb contains 23 decorated orthostats which form a continuous array of decorated stones along either side of the passage and around the walls of the burial chamber (Fig. 13.7). Careful study of the individual stones has shown that some of the motifs were created before the stones were placed in position (Le Roux 1992). These stones must have stood elsewhere before they were moved into the passage grave; and this raises the possibility that Gavrinis was conceived as a kind of 'gallery' in which a series



of pre-existing carved stones were incorporated and displayed. The presence of two distinct phases of ornamentation at Gavrinis had already been noted by the abbé Breuil and others in the 1930s, on the basis of the depth of the carvings (Breuil *et al.* 1938, 38; Cassen *et al.* 2000, 598). It was in the second stage that the individual motifs were incorporated within the more exuberant wavy line decoration, the later executed *in situ* once the stones were in their present positions (Le Roux 1992).

Thus whereas the incorporation of natural slabs in the passage graves of northern Europe was achieved by use of carefully-adjusted dry-stone walling, at Gavrinis, the incorporation of re-used megalithic slabs was achieved by covering their surfaces with exuberant wavy-line motifs, linking them together, so that traces of earlier ornament were simultaneously incorporated and merged within the new carvings. There is hence a possible parallel here with the design of megalithic monuments in northern Europe and the Alentejo, the key themes being *incorporation* and *display*. At Gavrinis, the displayed elements were decorated megalithic slabs brought in and arranged from an earlier monument or monuments. In northern Europe and the Alentejo, the tombs may have been conceived as structures in which a succession of natural megalithic slabs were displayed, split from their parent material or dragged from a distance, but only minimally worked.

## Conclusion

The materiality of the 'megalithic' clearly deserves greater attention than it has hitherto received. The incorporation of large slabs is a feature that intrigued early writers but has perhaps been too obvious and too quickly passed over in an effort to understand where the materials came from and how early societies with limited technical means at their disposal were able to manipulate such enormous blocks. Within their broader context, truly megalithic constructions form only part of a larger tradition in which dry-stone and timber also played a significant role. Nor should we forget the importance and visual impact of the mounds or cairns which covered most chambered tombs: the megalithic elements are generally merely the 'skeleton' around which the monument as a whole was constructed. Furthermore, as we have seen, megalithic stones were sometimes subjected to extensive modification through shaping or smoothing, or through the application of ornaments and motifs. The comparison that I have presented here between northern Europe, Portugal and Brit-

tany does however suggest that in all three instances analogous processes were in operation: that the megalithic slabs held powerful associations before they were taken to be displayed and incorporated in these tombs. These were stones of pre-existing significance: in the one case, natural boulders from boulder-strewn landscapes; in another, fragments from deeply fissured outcrops; in the third, decorated stones from a previous monument. It is only by considering these prior associations, which relate closely to the materiality of the large blocks themselves, and what Childe called their 'extravagant' size, that we can understand the reasons behind their 'megalithic' construction.

It is not my intention to establish a general explanation for all the Neolithic stone-built monuments of western Europe, in a posthumous revival of Fergusson over 125 years ago. The term 'megalithic' itself may be a relic of the history of archaeology, from an age of innocence when 'megalithic', 'cyclopean' and 'pelasgian' were devised to refer to primitive stages in the early development of architecture. As we have seen, however, any suggestion that megalithic monuments are 'crude' constructions fails signally to account for the labour-demanding and highly-intentional way in which unmodified or recycled megalithic slabs were deployed and displayed in these monuments. 'Megalithic' is hence not just a style of architecture; it is a particular way of thinking about the material world.

The concept of materialization — 'the transformation of ideas, values, stories, myths, and the like, into a physical reality' (DeMarrais *et al.* 1996, 16) moves us beyond the static *materialitas* of the stones themselves and leads us to consider exactly what it is that is being materialized. DeMarrais *et al.* (1996) emphasize the role played by materialization in strengthening and formalizing social power, including the construction of monuments: 'Monuments can be impressive, even overwhelming constructions that are experienced simultaneously by a large audience. They are effective and enduring means of communication, often expressing relatively unambiguous messages of power' (DeMarrais *et al.* 1996, 18). As I have shown, however, the megalithic monuments of western Europe are characterized not only by the use of large stones, but by the frequently unmodified character of those stones. This suggests that what is being materialized goes beyond issues of scale and social power to include qualities that were probably already present in these stones before they were taken and moved. The megalithic slabs may in one sense have served to symbolize or signify the places from

which they were derived — particular 'natural' formations or rock outcrops. At the same time, the unworked character of the stones indicates that it may be misleading to suggest that the blocks were the materialization of some external meaning inscribed onto them from the social realm. The stones were not 'an inert substance' (Ingold 2000, 88) but will have provoked and attracted specific meanings and associations through their material qualities: shape, colour, texture, size. Gosden (this volume) has likened the encounter with material objects to an emotional experience. Like Trobriand canoe prows, it may be that the megalithic blocks used to construct European Neolithic monuments had potency, without specific meanings being attached to them. The paradox may be that, simply by enquiring *what* these stones materialized, we risk occluding once again the very materiality that we are seeking to comprehend.

## References

- Bakker, J.A., 1979. July 1878: Lukis and Dryden in Drenthe. *Antiquaries Journal* 59, 9–18.
- Bakker, J.A., 1992. *The Dutch Hunebedden: Megalithic Tombs of the Funnel Beaker Culture*. Ann Arbor (MI): International Monographs in Prehistory.
- Bakker, J.A. & W. Groenman-van Waateringe, 1988. Megaliths, soils and vegetation on the Drenthe Plateau, in *Man-made Soils*, eds. W. Groenman-van Waateringe & M. Robinson. (British Archaeological Reports 410.) Oxford: BAR, 143–81.
- Breuil, H., Z. Le Rouzic & M.E. Boyle, 1938. La figure humaine dans la décoration des allées couvertes du Morbihan. *Préhistoire* 6, 7–48.
- Cassen, S., C. Boujot & J. Vaquero, 2000. *Éléments d'architecture. Exploration d'un tertre funéraire à Lannec er Gadouer (Erdeven, Morbihan). Constructions et reconstructions dans le Néolithique morbihannais. Propositions pour une lecture symbolique*. Chauvigny: Association des Publications Chauvinoises.
- Childe, V.G., 1957. *The Dawn of European Civilization*, 6th edition. London: Routledge & Kegan Paul.
- Cleal, R.M.J., K.E. Walker & R. Montague, 1995. *Stonehenge in its Landscape*. London: English Heritage.
- Cummings, V. & A. Whittle, 2003. Tombs with a view: landscape, monuments and trees. *Antiquity* 77, 255–66.
- Daniel, G., 1958. *The Megalith Builders of Western Europe*. London: Hutchinson.
- Dehn, W., P. Kalb & W. Vortisch, 1991. Geologisch-Petrographische Untersuchungen an Megalithgräbern Portugals. *Madrid Mitteilungen* 32, 1–28.
- Dehn, T. & S.I. Hansen, 2000. Doubtless in the construction of Danish passage graves, in *Neolithic Orkney in its European Context*, ed. A. Ritchie. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 215–21.
- DeMarrais, E., J.M. Castillo & T. Earle, 1996. Ideology, materialization and power strategies. *Current Anthropology* 37, 15–31.
- Fergusson, J., 1872. *Rude Stone Monuments in All Countries; their Ages and Uses*. London: John Murray.
- Gehl, O., 1972. Das Baumaterial der Megalithgräber in Mecklenburg, in Schuldt 1972, 109–15.
- Hoika, J., 1990. Megalithic graves in the Funnel Beaker culture of Schleswig-Holstein. *Przeglad Archeologiczny* 37, 53–119.
- Ingold, T., 2000. *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*. London: Routledge.
- Kalb, P., 1996. Megalith-building, stone transport and territorial markers: evidence from Vale de Rodrigo, Evora, south Portugal. *Antiquity* 70, 683–5.
- Le Roux, C.-T., 1992. The art of Gavrinis presented in its Armorican context and in comparison with Ireland. *Journal of the Royal Society of Antiquaries of Ireland* 122, 79–108.
- Lukis, W.C., 1879. Report on the Hunebedden of Drenthe, Netherlands. *Proceedings of the Society of Antiquaries of London* 8, 46–54.
- Midgley, M.S., 1985. *The Origin and Function of the Earthen Long Barrows of Northern Europe*. (British Archaeological Reports 20.) Oxford: BAR.
- Peet, T.E., 1912. *Rough Stone Monuments and their Builders*. London: Harper & Brothers.
- Péquart, M., S.-J. Péquart & Z. Le Rouzic, 1927. *Corpus des signes gravés des monuments mégalithiques du Morbihan*. Paris: Picard/Berger-Levrault.
- Schuldt, E., 1972. *Die mecklenburgischen Megalithgräber. Untersuchungen zur ihrer Architektur und Funktion*. Berlin: Deutscher Verlag der Wissenschaften.
- Thomas, J., 1996. *Time, Culture and Identity: an Interpretive Archaeology*. London: Routledge.
- Thomas, J., 2001. Archaeologies of place and landscape, in *Archaeological Theory Today*, ed. I. Hodder. Cambridge: Polity Press, 165–86.
- Tilley, C., 1998. Megaliths in texts, in *Understanding the Neolithic of Northwestern Europe*, eds. M. Edmonds & C. Richards. Glasgow: Cruithne Press, 141–60.
- Van Giffen, A.E., 1927. *The Hunebeds in the Netherlands*. Utrecht: A. Oosthoek.
- Vortisch, W., 1999. Geologisch-petrographische Untersuchungen an megalithischen Monumenten — Beispiele aus Portugal, in *Studien zur Megalithik. Forschungsstand und ethnoarchäologische Perspektiven*, eds. K.W. Beinbauer, G. Cooney, C.E. Guksch & S. Kus. Weissbach: Beier & Beran, 275–88.
- Whitley, D.S., R.I. Dorn, J.M. Simon, R. Rechtman & T.K. Whitley, 1999. Sally's Rockshelter and the archaeology of the vision quest. *Cambridge Archaeological Journal* 9(2), 221–47.
- Wilson, P.J., 1988. *The Domestication of the Human Species*. New Haven (CT) & London: Yale University Press.